

QUASI-PARALLEL MULTICHANNEL RECEIVERS FOR WIDEBAND  
ORTHOGONAL FREQUENCY DIVISION MULTIPLEXED  
COMMUNICATIONS AND ASSOCIATED METHODS

5

Abstract of the Disclosure

A quasi-parallel receiver may simultaneously receive signals within several subchannels that comprise a wideband channel. The receiver includes a subchannel filter selection switch that provides a baseband signal to a selected one of a plurality of subchannel low-pass filters. A heterodyne frequency generator provides one of a plurality of heterodyne frequencies to convert an RF signal received within a selected subchannel to the baseband signal. The subchannel low-pass filters accumulate signal information from an associated one of a plurality of subchannels during a filter-input sampling interval. In some embodiments, individual analog-to-digital converters receive the accumulated signal outputs from an associated subchannel filter and generate digital signals for a subsequent Fourier transformation. In some embodiments, a normalized signal output may be provided to the analog-to-digital converters, allowing the use of lower resolution analog-to-digital converters. The analog-to-digital converters may have sampling rates based on the subchannel bandwidth.

"Express Mail" mailing label number: EV 332569278 US  
Date of Deposit: December 29, 2003  
This paper or fee is being deposited on the date indicated above with the United States Postal Service pursuant to 37 CFR 1.10, and is addressed to the Commissioner for Patents, Mail Stop Patent Application, P.O. Box 1450, Alexandria, VA 22313-1450.